REPORT OF THE COUNCIL.

TO THE

Members of the Montreal Sanitary Association.

JANUARY, 1890.

GENTLEMEN:

In making our third annual report, we may congratulate the Association upon a continued increase in the number of its members and in the number of examinations of buildings that have been made during the past year. It is, however, to be regretted that greater interest is not taken in our Association by the general public, as there can be no question but that the small amount of the membership fee is many times returned to the member in the benefits which he derives from his connection with it.

A few of our members have withdrawn on the assumption, we suppose, that having had their drains once examined they may be considered perfect for all time to come. The Engineer's report, however, will shew that such is far from being the case. Drains are constantly failing and, in order to be certain that they are in perfect condition, it is necessary that they should be examined once a year at least.

It is encouraging to see that a considerable number of public offices have been examined during the past year, and we trust that, in the interests of the health and welfare of the employees, more public offices will be added to our list during the coming year.

The results of our examinations have been so beneficial in the past that some architects are specifying that all plumbing and drainage works in connection with their buildings are to be done to the satisfaction of our Engineer. It will be the beginning of better things when all architects put this clause in their specifications.

The Engineer's report is worthy of careful consideration. He shows most clearly the dangers which exist in so many of even our best houses, and it is to be hoped that, in the interests of the health of the City, our members will call the attention of their friends to the dangers that are lurking in their houses from want of attention to the vital matters of drainage and ventilation.

The Treasurer's report shows that the balance in hand is considerably less than it was at this time last year. This is due, however, to the fact that subscriptions have not been asked for as early as heretofore, and that many accounts for work done to outside parties have not been rendered, owing to delay in the completion of the buildings.

The Council regrets that it has not been able to do more for the advancement of the interests of the Association. It feels that some further effort should be made in order to make the citizens more generally acquainted with the benefits to be derived from being connected with it, and trusts that the incoming Council may be more successful in accomplishing this.

The citizens should be shown that when asked to become connected with the Association it is not for the purpose of sustaining it, as it is already more than self-supporting, but for the purpose of promoting the health and well-being of the community.

Submitted on behalf of the Council,

P. ALEX. PETERSON,

President.

MONTREAL, JANUARY 25TH, 1890.

ENGINEER'S ANNUAL REPORT FOR THE YEAR 1889.

To the Council of the Association, 16TH JANUARY, 1890.

GENTLEMEN:

During the past year, 150 examinations have been made, and about 319 visits of superintendence and final testing.

As usual, but little could be done during the months of July and August, and a large number of members have postponed examinations when offered them or neglected to reply to the circular sent them. These two facts make it very difficult to get over the work during the latter part of the year when a pressure of work always comes.

During the year, 27 new members have joined the Association, some of whom may not, however, be permanent members; and 8 additional public buildings and offices have been put on the list. The total number of names that have actually been withdrawn from the list of membership during the year is 9. Of these one is deceased, one has left the country, one has given up housekeeping for a time, and 3 were new members the previous year and had not intended to join for more than one year. Two members who withdrew last year rejoined the Association this year. It is not possible to assign an exact figure to the present membership, as a good number who have not paid their subscriptions may yet do so.

The withdrawals, if any, are not likely, however, to be so many as the additions, so that the Association is still slowly gaining in numbers.

Among the most important buildings examined during the year for the first time are:

The Harbor Commissioners' Offices.
The Metropolitan Club House.
Protestant Infants' Home, Guy Street.
Queen's Block, St. Catherine Street.
Grand Trunk General Offices, Point St. Charles, &c., &c.

The following table shows the per centage of different kinds of defects found in buildings and residences examined for the first time:

Leaky drains and soil pipes	30 per cent.
No ventilation or inadequate ventilation	20 "
Serious defects of any kind	35 "

These figures shew a marked improvement in the character of the work examined, over previous years, and this is due to the fact of my having been more frequently asked to examine and approve of new work.

One or two architects have adopted the practice of specifying that all the plumbing and drainage work of new buildings erected by them shall be executed to the satisfaction of your engineer, who shall make a final examination and test at the cost of the contractor. This indicates the progress that the Association is making in public favor.

The necessity of having periodical examinations has been well exemplified during the year, serious defects having been detected in 18 per cent. of the annual examinations made. There are many causes at work likely to derange different parts of a drainage system even when perfect, such as the settlement of foundations, settlement of walls, effect upon joints of the alternate heating and cooling of the pipes, eating away of lead pipes by rats, wear and tear of plumbing appliances, &c.

The subject of ventilation, which has hitherto been so much neglected in this city, is evidently beginning to get more attention. I have been consulted on this subject in connection with public offices, &c., in 6 important cases during the year. The value of proper ventilation in our houses and places of business cannot be over-

estimated, and it is to be hoped it will receive more attention in the future.

The following few selected instances of bad drainage discovered during the year may prove of interest:

In a club house, where frequent complaints were made, a room in the basement was quite uninhabitable, owing to the free entrance of sewer gas into it. This room was used as a sleeping apartment, and the drains of the house were entirely unventilated, rendering matters still worse. As was to be expected, sickness was caused by this state of affairs, which was remedied by the construction of a new drain, renewal of the plumber work and proper ventilation.

In a house on Beaver Hall Hill, where new iron soil pipes and drains had been put in and exposed to view, it was discovered that sewer gas was entering the house freely and in considerable volume alongside of the iron drain, from a faulty joint outside of the house.

In a public building in the city, among other grave defects, four or five open pipes were discovered in the basement, two, four and six inches in diameter, communicating directly with the drains of the building.

At a private residence in Dorchester Street, a very bad state of affairs was found to exist. The soil pipes were of lead trapped at the foot, wholly unventilated, and having numerous fixtures connected with them by long branch waste pipes, also wholly unventilated. In nearly every bedroom in the house was situated a wash-hand basin communicating with the unventilated soil pipes as described. The overflow pipe of a cistern in the attics was connected directly with one of the soil pipes, and protected only by a bell trap on top of it. This trap had, of course, evaporated, and the stench escaping from the top of the waste pipe was insupportable, indicating the condition into which pipes or drains will get when unventilated. All the appliances in connection with the house were old and unsatisfactory, and the pipes leaking badly

The main drain of the house consisted of fire clay pipes 9 inches in diameter and laid on a gradient of less than $\frac{1}{4}$ inch to each length of pipe. This drain had been recently put in at considerable cost, and was 70 or 80 yards long. It, of course, could not be self-cleansing, and I accordingly had it opened at a point chosen at random and found it standing about $\frac{1}{3}$ full of water.

In a large residence on Sherbrooke Street, the drains were found to be leaking very badly at various points, and sewer gas escaping freely into the house, which fact was quite apparent to the nose. Two sinks were also connected in such a way that the discharge of one deprived the trap of the other of its water seal, and so provided another opening for the entrance of sewer gas into the house.

In another large house on Sherbrooke street the main drain was found to be leaking and partially choked. A very large leak was discovered in the lead pipe leading from one of the water closets. A large hole had been eaten through the top of the pipe by rats, and although the hole was so situated that water did not escape from it, the smell of sewer gas was at times very strong.

In a large place of business in the city, where complaint was made of offensive odors in the offices, sewer gas was found to have free entrance into the building on the floor occupied by the offices. There were two water closets situated back to back; the basin of one was broken in a great number of places and in front of the trap, and was simply hanging together; and the air pipe connected with the ventilating horn of the other was torn from it, taking part of the horn with it, and leaving a $2\frac{1}{2}$ inch opening direct from the sewer.

In two or three houses in a terrace in the West End it was found that the soil pipe and kitchen sink were inserted into a 6 and a 4 inch faucet of the drain respectively, and no joints whatever made. These open pipes were within a few inches of the floor, and vomiting sewer gas into the houses freely. In one of the houses there had been several cases of diphtheria. The smoke test is invaluable in finding out such defects, readily revealing leaks in drains, sometimes many feet underground.

The recommendations made in my reports are, on the whole, very well acted upon, so that the work of the Association is not done in vain. It has been remarked in the daily press quite recently by an official of the Board of Health that as the number of well drained houses has increased, the death rate has decreased, a fact which ought to have weight with those who have not hitherto considered it necessary to have a thorough examination of their houses made. The value of such an examination is becoming more and more appreciated, and cannot be over-estimated. The examination, moreover, has often been found to be most needed, where the house-holder deemed it was merely a matter of form.

The following statement, supplementing the Treasurer's statement, will make the financial position of the Association clearer:

The amount of money still owing to the Association for the past year is about $800. $700 of the amount can be reckoned safely as credit, being all for services received. This amount is outstanding partly because some of the larger sums could not be rendered in time, as the work was still in progress, and partly owing to the difficulty of collecting small sums of money, such as $10 subscriptions.

I am, Gentlemen,

Your Obedient Servant,

RICH. P. FLEMING, C.E.,

Engineer.

MONTREAL SANITARY ASSOCIATION.

DR. STATEMENT OF RECEIPTS AND DISBURSEMENTS FOR YEAR ENDING 31ST DEC., 1889. CR

1889.			1889.		
Jan. 1.	To Balance.....	$ 638 74	Dec. 31. By R. P. Fleming, 12 mos. salary, 133.33.	$1,599 96	
Dec. 31.	" Am'nt Collected for annual Subscriptions and special Examinations.....	1,839 70	Do. extra..	75 86	
			Do. do. ..	39 04	
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					$1,740 76
			By M. W. Hopkins, 8 months and 10 days, $41.67.....		347 25
			" W. J. Kerr.....		25 00
			" H. H. Date, collecting.....		35 50
			" W. Cook, do.		10 00
			" J. Lovell & Son, printing.....	$ 1 75	
			" *Gazette* Printing Co..	12 25	
			" W. H. Eaton, printing	1 25	
			" J. R. Dougall " ..	2 25	
			" *Herald* Co., " ..	2 55	
			" J. Lovell & Son, " ..	11 00	
					31 05
			" A. C. Lyman.....	8 94	
			" "	31 15	
			" "	31 02	
			" "	30 94	
			" "	29 79	
			" "	9 17	
					141 01
			" J. Date.....	$ 6 70	
			" "	16 01	
			" "	1 80	
					24 51
			" Water tax.....		10 00
			" Balance.....		113 36
		$2,478 44			$2,478 44

1890.
Jan. 1. To balance..... .....$113 36

Approved,

MACINTOSH & HYDE,

Accountants.

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EMING, C.E.,
Engineer.

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& HYDE,
Accountants.